



# Kansas Corporation Commission Kansas State Energy Program 2002 Annual Report

## From the Chair

*This year has been traumatic for most Americans. The events of September 11, 2001, changed our lives forever. Since then, we have all become more aware of our reliance on foreign sources of energy. Kansans are fortunate to have the State Energy Program leading the way in the post-9/11 era by encouraging energy awareness, conservation measures and emergency planning.*

*This year, the Energy Program has funded projects to: educate and assist Kansans on ways to conserve energy in their homes; realize the benefits of renewable energy; encourage young people to pursue careers in energy; encourage our citizens to use mass transit; further energy conservation in local building codes and standards; develop Kansas' tremendous wind energy potential; and prepare for potential energy emergencies (either man-made or natural). It is going to be more important than ever to have dependable sources of energy, conserve the energy we have, and be prepared to act in the event of energy shortfalls. As you will see as you read this report, the Kansas State Energy Program is addressing these issues.*

*The Institutional Conservation Program (ICP), administered by the State Energy Program, continues to aid public and private Kansas K-12 schools in upgrading their facilities using state-of-the-art energy conservation methods. This year's projects will generate over \$220,000 in annual savings to the schools. These savings directly reduce operating budgets, thereby translating into new teachers, supplies and a general improvement in the quality of education. Additionally, the energy conservation measures greatly improve the "comfort" environment of each school. Thank you to everyone who participated in the FY2002 program.*

John Wine, Chairman  
Kansas Corporation Commission

Kansas Energy Program Office (785) 271-3170  
Kansas Corporation Commission j.ploger@kcc.state.ks.us  
1500 SW Arrowhead Road www.kcc.state.ks.us  
Topeka, KS 66604

## Overview of the Kansas Energy Program

Kansas has long been a leader in the production of energy in the US. As Kansas advances into the 21<sup>st</sup> Century, our next generation of citizens must be as informed and interested in energy issues as past generations. The State Energy Program fosters interest, education, and conservation of energy in Kansas through program grants to concerned businesses and organizations.

State Energy Program Grants look to the future. In FY2002, 18 grants totaling over \$475,000 were awarded to Kansas companies and organizations. Many of these grants support statewide energy activities, such as the Energy Extension Service, the Energy Efficiency Media Program, and the Building Codes and Standards Project.

The grants support a large range of programs in the areas of Education, Transportation, Utilities, Industrial, Buildings and Special Projects.

The Institutional Conservation Program helps nonprofit schools throughout the state upgrade their older, energy inefficient facilities. The program offers matching funds that cover up to 50% of the design, purchase and

installation costs for energy efficient systems. The maximum annual award to a school district is \$50,000. In FY2002, \$223,000 was awarded to 17 schools to upgrade 30 buildings. These upgrades will have a positive financial effect on the recipient schools for years to come.

The Energy Program also sponsors the annual Solar BikeRayce, held at Heartland Park in Topeka. High schools and organizations



from the U.S., Canada, Australia, and Malaysia designed, built and tested solar and battery assisted bicycles and S-class solar vehicles. The teams then competed in the 62-mile race. The Energy Office also sponsored Solar Express, a 550 km solar-bike road race from Topeka to Jefferson City, MO, and the American Solar Challenge.

Energy Program manager, Jim Ploger, has been with the State Energy Office since 1991 and has headed it since 1994.

# State Energy Program Grants

## Education

### Weatherization Education

*Community Action, Inc.  
Topeka (785) 232-2963*

In August 2001, Community Action held its annual Back to School Fair in Topeka where flyers giving low-cost and no-cost ideas for energy reduction in the home were handed out to approximately 5,000 attendees. As usual, the model home was on display where areas of air infiltration were identified and a demonstration was given on how the homeowner can, at minimal cost to themselves, take the initiative in reducing their overall energy outlay.

During the heating months of October 2001 through February 2002, Community Action held 50 Winterization and Energy Education workshops where kits containing materials to lower energy usage and costs were distributed to income eligible attendees. The kits contain plastic for windows, rope caulking, weather-stripping, two types of pipe wrap and a carbon monoxide detector. As usual, the "No-Cost Low-Cost Tips" handbook was given to all in attendance.



*The Energy Usage/Conservation display was put to frequent use this year by Topeka Community Action.*

New this year were two Energy Education workshops for Spanish speaking new arrivals in our country. Since this is their first time in a cold climate, there were many questions about how to go about getting a home ready for the winter months. Community Action also expanded into four additional counties along the I-70 corridor and now offers services in Shawnee, Wabaunsee, Geary, Clay, Dickinson and Saline counties.

During the late winter and early spring months Community Action's Energy Education workshops were incorporated with the workshops on Radon Education. These workshops were held at Papan's Land-

ing Senior Center, The Life League of United Latin American Citizens Center and the Antioch Family Life Center.

In April, the display booth dealing with energy usage and conservation was shown at the Junction City Intergenerational Fair held in the city municipal building. One-on-one energy savings advice was shared with approximately 1,050 people. Also in April, the display booth and energy reduction information was at the Children's Safety Fair held in the Abilene Civic Center. Games, coloring books and puzzles that emphasized energy conservation measures were given to the children; adults received copies of Energy Savings Tips booklets, pens, and night-lights.

In May and June, Community Action continued with the one-on-one Energy Education Program combined with the Weatherization Program. During a client's initial inspection for the weatherizing process, a walk through is conducted where things a client can do for themselves to save energy are pointed out, such as, new gaskets on the refrigerator, compact fluorescent bulbs, lowering the temperature on the water heater and setting the thermostat at a slightly higher setting for air conditioning. These are just a few of the many things individuals can do for themselves to save energy, if they just have the basic information. Community Action is supplying this information for Kansas citizens.

### Cost-Effective Solar Power Manual

*Kansas State University Electrical Engineering  
Manhattan (785) 532-5627*

The Cost Effective Solar Power report (90 pages) focuses primarily on heightening public awareness about the availability of cost-effective solar electric systems for a five-state region—Iowa, Kansas, Missouri, Nebraska, and Oklahoma. Several cost-effective solar electric technologies deemed important to these Heartland states are discussed in the report. Each technology is addressed separately with respect to its importance for a specific application using photovoltaic (PV) cells to convert energy from the sun directly into electricity. Solar electric technologies continue to grow in importance as they contribute to the reduction of our dependence on domestic and imported fossil fuels—oil, natural gas, and coal—for satisfying the increasing demand for electricity in the United States. Solar electric systems can make an important contribution to the future energy needs of the United States, provided that industry and the public at large are informed about the potential of adopting this renewable energy resource. The United States government and the private so-



# State Energy Program Grants

lar energy sector are actively pursuing cost-effective methods to generate electric power for our citizens. The goal of the manual is to broadcast this information throughout the heartland to assure that solar electric systems will be considered as an alternative source of energy, instead of automatically assuming that utility-generated grid power is always the best choice for powering electrical devices. The report contains information that can be used by homeowners, farmers and ranchers, industry, and state governments in the heartland to make an informed decision about selecting solar electric systems as the best choice to satisfy their needs for electric power.

To provide an efficient, lower-cost method of disseminating information to generate interest in solar power, a tri-fold brochure, in mailer format, was also produced. The brochure lists possible applications for solar power and a brief description of its benefits for each application.

## Kansas Energy Network

*University of Kansas Center for Research  
Lawrence (785) 864-3441*

The Kansas Energy Information Network (KEIN) is a web-site that makes existing on-line energy information easy to access. While web-searches can still be used to find specific information, KEIN has organized Kansas-relevant energy information on topics such as energy consumption, energy production, and energy-related research in one location. The frequent user of multiple on-line energy resources can now bookmark KEIN rather than numerous other web-sites. The web-site can be accessed at [www.kansasenergy.org](http://www.kansasenergy.org).

KEIN includes links to energy news, upcoming events, energy data, and energy merchants with web-pages organized topically by fuel type, such as wind, solar, and petroleum, and by energy-related topics, such as transportation and energy conservation. An e-mail list server exists to facilitate communication on energy issues. Instructions on how to subscribe to the list can be accessed from the main page. A directory of energy-related contacts (businesses, experts, producers, etc.) will be developed during fiscal year 2003.

## Solar Racing

*Formula Sun  
Freeman, MO (877) 840-5511*

The Formula Sun Grand Prix (FSGP) was held May 13-17 on Heartland Park Topeka's (HPT) 2.1 mile course. The FSGP is a solar car track race for college and university teams, this year featuring competitors from twelve states and Canada. Kansas was represented by two cars from Kansas State University. The KSU team was first in the Stock Class, completing 305 laps. First place overall, and first in the Open Event, was the University of Missouri-Rolla, which completed 444 laps, surpassing the previous lap record of 396 set in 2000 by Rose Hulman Institute of Technology.

Following the FSGP, the 8<sup>th</sup> annual Solar BikeRayce USA was held at Heartland Park in Topeka May 17-19. Teams from across the United States plus Australia and Malaysia participated. The BikeRayce is open to high school students and others of all ages. The objectives of Solar BikeRayce USA are to stimulate interest in science and technology; promote energy efficiency and the use of renewable sources of energy; and raise awareness of alternatives that make fewer demands on the environment. The fastest time in the 200-meter sprint this year was 11.05 seconds by Bloomington High School South, Bloomington Indiana; Los Altos High School, Los Altos, CA, won the S-class; and Eastern Fleurieu School, Strathalbyn, South Australia, won the A/B/X-class. This year's Sportsmanship Award went to Topeka High School.

This was the first year Solar Express, a solar bike road race, was conducted. It began in Topeka, Kansas on May 21 and finished May 23 in Jefferson City, Missouri with seven stops along the way. It was held the week after the Solar BikeRayce, which is a qualifying competition for the Solar Express. Once again Eastern Fleurieu School was dominant with an overall time of 15:27:37.

Next year's races will again be held in May at Heartland Park. All Kansas high schools and colleges are encouraged to form teams and participate in the solar racing competitions. For more information log on to [www.formulasun.org](http://www.formulasun.org) or call the Formula Sun headquarters.



*The Kansas State University Racing team in the pits at Heartland Park-Topeka during the Formula Sun Grand Prix.*

## Energy Annual Report

*Pinnacle Technology, Inc.  
Lawrence (785) 832-8866*

Pinnacle Technology was hired by the Energy Office to prepare the Annual Report that you are currently reading. The office has asked the company to collect information from all the grantees during fiscal year 2002, summarize, and produce an easy-to-read report highlighting all the activities undertaken by the program during the year.

# State Energy Program Grants

## Energy Extension Service

*Kansas State University, Engineering Extension  
Manhattan (785) 532-4994*

Energy Extension Service (EES) entered its 22<sup>nd</sup> year of service to Kansas energy consumers in 2002. Throughout that time, EES has provided timely, factual, and unbiased answers to questions on energy topics ranging from production of renewable energy to energy conservation and air quality. EES produces original publications, maintains web resources, and responds to telephone and e-mail energy questions.

EES has added two publications this year, *Purchasing Energy-Efficient Appliances* and *Answers to Home Energy Questions*. *Purchasing Energy-Efficient Appliances* provides guidance for buying dishwashers, clothes washers, clothes dryers, refrigerators, and water heaters. For each appliance, there is a discussion of typical energy-use characteristics and general features, tips on what to look for when buying and on efficient operation, and a list of additional web-based resources are discussed. *Answers to Home Energy Questions* is a compilation of some of the most frequently asked questions and answers on home energy issues. The fact sheet, *Tips for Purchasing an Energy-Efficient Home*, continues to be one of the most popular publications, with more than 50,000 distributed statewide. All publications are available online at [www.engext.ksu.edu](http://www.engext.ksu.edu).

*Ask Energenie*, the weekly Q&A newspaper column on energy, continues to be a popular vehicle for distributing current energy information. The column is distributed to 67 daily or weekly newspapers and all 105 county extension offices. County offices repackage the information for local newsletters for an even wider distribution.

Web resources have been extensively revised and updated. One new feature in the Building Energy Codes section features a new database identifying energy and building code's adoption by municipality. The database will assist builders and building code officials in tracking the evolution and adoption of building codes in Kansas. Information on countywide codes and an expanded search capability are planned for the future.

## Communities of the Future

*City of Manhattan  
Manhattan (785) 587-2404*

Communities of the Future is an initiative of the Department of Energy intended to provide assistance to communities in gaining economic and environmental advantages through existing Department of Energy programs. As a Communities of the Future site, the City of Manhattan will work with the Department of Energy-Denver Regional Office to assist the community in achieving goals related to energy efficiency. These goals are:

1. Educate local businesses on energy efficiency measures.
2. Promote energy efficient and "green" building techniques.
3. Provide assistance to educational institutions to improve energy efficiency.
4. Assist Fort Riley in meeting its energy conservation mandates.
5. Consider energy implications in a Comprehensive Plan Update.
6. Cooperate and communicate with other Kansas municipalities on regional and statewide energy policy options and interests.
7. Review energy use in municipal facilities.
8. Conduct citywide training in writing federal grant applications.

The City of Manhattan will serve as the local contact for the program. The Denver Region has also selected two other cities to participate in the pilot program: Perry, OK and Austin, TX.

Manhattan's hope for the Communities of the Future program is to bring about increased community awareness for energy conservation. To this end, a Communities of the Future steering committee was established to begin implementing the above goals.

## Transportation

### Kansas City Rideshare

*Mid-America Regional Council  
Kansas City, MO (816) 474-4240*

Kansas City RIDESHARE launched the Commuter Choice Leadership Initiative program early this year as part of a partnership with the local EPA office. This program provides guidance to employers who encourage their employees to use alternative modes of transportation in the work commute. The program uses changes in the IRS code to provide incentives to employers and employees who change their commuting habits to environmentally-friendly alternatives.

This intensive agenda, requiring the employer to have 14% or more of their employees actively using alternative modes of transportation and quarterly reports on their progress, includes national recognition for employers who participate. RIDESHARE has contracted with five employers in the Kansas City region, and has several more in the implementation phase. Staff also hosted a Commuter Choice workshop during the month of June for interested employers in the area. The information and resources available at the workshop were excellent, according to attendees.

RIDESHARE participated in over 70 information fairs this year. Over 3,000 successful match reports were mailed out to individuals who registered with the database.

Staff members attended the Association for Commuter Transportation (ACT) international conference in Portland in September,

# State Energy Program Grants

where the program manager made a presentation on the recently completed strategic business plan. The ACT conference is an excellent avenue for networking and learning about other commuter programs across the nation.

On October 1, 2001, RIDESHARE changed the parameters of the Guaranteed Ride Home service making it available to individuals, and a large number of commuters registered for the service. There are currently 594 persons registered for the service, with 222 listed as carpoolers, 276 vanpoolers, 95 transit riders and 1 bicyclist. An average of two rides home per month are provided.



*Rideshare staff conducted a Commuter Workshop for employers in June 2002.*

## Wichita Rideshare

Wichita Transit  
Wichita (316) 352-4806

The City of Wichita was pleased to retire the last of the RTS buses that have been a part of its fleet since 1980. The RTS buses have served the city well beyond their expected life of 12 years. The last RTS bus finished its run on August 9, 2002. The conversion to the new Chance Coach and Gillig buses is now complete. A dedication ceremony took place on April 3, 2002 to introduce the new buses to the City of Wichita. Noted dignitaries, such as Congressman Todd Tiahrt and Federal Transit Administration Region 7 Administrator Mokhtee Ahmad, attended this celebration. The City of Wichita provides transportation for over 2 million passengers and 210,000 disabled riders each year. Wichita's fleet consists of 51 buses and 26 Americans with Disabilities Act vans.

Requests for Proposals (RFP's) were completed and sent out for the ParaTransit Scheduling Software package, Electronic Fareboxes, and Replacement ParaTransit Vans. The ParaTransit Scheduling package is going to be a vital part of the matching process for the Regional Rideshare Program. The City of Wichita is in the final stages of purchasing this software. The other RFP's



*One of Wichita Transit's new fleet of buses. The new buses are both more comfortable and more energy efficient than the buses they replaced.*

are in the evaluation stages. Wichita Transit is moving forward with their commitment to incorporate Intelligent Transportation Systems into their service. These items will allow Wichita Transit to be more efficient and become a better transportation option for its citizens.

## Biodiesel Feasibility

MARC-IV  
Kearney, MO (816) 635-5772

Outreach activities were conducted for Kansas education administrators, fleet maintenance personnel, and others that have an interest in school bus transportation issues specifically to educate them about the health, economic, and environmental benefits of biodiesel. This project was intended to advance the use of biodiesel in all school bus fleets as well as to help build the market in Kansas for use of soybean-based biodiesel in other public and private entities throughout the state.

Project activities included a presentation at the annual Kansas state school pupil transportation meetings as well as on-site informational seminars to personnel involved with the operation, maintenance, procurement, and/or administration of school bus transportation at approximately 20 selected unified school districts (USD). Fleet maintenance and repair practices, fuel procurement processes, and delivery schedules applicable to each USD were also investigated to determine any concerns school bus personnel may have with respect to implementing biodiesel into their fleets.

# State Energy Program Grants

## Buildings

### Energy Efficiency Demonstration

*Community Mercantile Exchange  
Lawrence (785) 843-8544*

Community Mercantile Natural Foods Co-op in Lawrence, Kansas was awarded a grant to implement energy saving technologies that would save on natural resources and save thousands of dollars each year on utilities expenses. Part of its mission is to “encourage personal, community and environmental health” so the opportunity for Community Mercantile to serve its community by improving environmentally friendly operations was a perfect fit.



*The Community Mercantile Exchange upgraded a 1960's Lawrence supermarket to current energy efficiency standards.*

Community Mercantile had just relocated into an older building that had many of its original utility systems still in place, so the grant was used to:

- Replace old plate glass windows with insulated, UV-filtering, double-pane windows;
- Replace all lighting with highly efficient fluorescent and compact fluorescent lights;
- Replace old hot water heaters with high-efficiency tankless water heaters;
- Install insulated covers for the open refrigerated cases to be used during the store's closed hours;
- Install “air doors” on all exterior doors. These are fans which blow a separating layer of air in the doorway to keep outside air from mixing with inside air.
- Install insulation and weatherization around all pipes, doors and windows; and,
- Install ceiling fans to keep air temperature constant and to reduce HVAC's burden.

In addition to monetary savings, Community Mercantile's energy savings will reduce the amount of environmental pollutant emis-

sions and reduce the overall consumption of natural resources. The replacement of the light fixtures alone should save around 300,000 pounds of coal a year!

The improvements have not only saved money and resources, but have generated a lot of interest in the community for other potential areas of efficiency improvements. Community Mercantile highly publicized the grant and improvements in its monthly newsletter and also on a “story board” located within the store explaining the environmental impact of each improvement made. Community Mercantile is thankful for the opportunity that the grant provided, and is hopeful that it can generate interest by others to pursue other projects like this in Lawrence and throughout the state.

### Kansas Energy Star - Home Energy Rating System

*Kansas Building Science Institute  
Manhattan (785) 537-2425*

Release of the 2000 International Building Codes series has prompted Kansas communities to review existing building codes, with many considering adoption of the new I-Codes. Many communities are also considering the 2000 International Energy Conservation Code (IECC), now a more integral part of the I-Code series.

Johnson County Building Code Officials, a consortium of Johnson County code officials, formed a subcommittee to develop an energy code recommendation that would be acceptable to builders, enforceable by building code officials, and able to achieve a level of energy performance that exceeds current building practice. The subcommittee consisted of code officials, builders, and members of the Kansas Building Energy Code team.

Outcome of the process was a set of simple prescriptive rules covering levels of insulation and glazing performance. One focus was to achieve higher performance levels in housing features that are difficult to upgrade, while allowing some flexibility on those features that could be upgraded at a later date. Several building code training sessions were held in greater Kansas City to assist builders in

#### *Thermal Component    Minimum Insulation R-Value*

<b>Ceiling</b>	<b>38</b>
<b>Cathedral ceiling</b>	<b>30</b>
<b>Floor over unheated space</b>	<b>19</b>
<b>Floor over outside air</b>	<b>30</b>
<b>Basement wall</b>	<b>9</b>
<b>Crawl space</b>	<b>19</b>
<b>Exterior wall</b>	<b>13</b>
	<i>Maximum U-Value</i>
<b>Glazing</b>	<b>0.40</b>

# State Energy Program Grants



Steve Jankord, left, Manhattan builder, discusses uses of a blower door with Russ Rudy, KBSI, at the Manhattan Home Energy Rating Field Day.

understanding local energy code adoptions, and to increase their skills in using the MECcheck energy code compliance software.

Building energy codes establish only a minimum level of building performance, not the economic optimum level. Home energy ratings (HERS) allow a performance-based evaluation of the cost-effectiveness of beyond-code levels of energy performance. Several HERS Field Days were held to educate builders and code officials on the process of performing a home energy rating and the advantages brought to the builder and buyer.

## Compact Fluorescent Bulb Promotion

City of Overland Park  
Overland Park (913) 895-6273

The City of Overland Park supports reductions in greenhouse gas emissions as a way to improve the environment and community.

As a member of the International Council for Local Environmental Initiatives, Overland Park completed numerous projects to improve energy efficiency in city operations and facilities and strongly encourages city residents to practice smart, cost-effective energy efficiency at home. As part of this ongoing effort, Overland Park proposed to sell compact fluorescent light bulbs (CFL's) envisioned to save more than 675,000



Compact fluorescent bulbs, such as the one above, come in various shapes and sizes for a variety of applications

kWh of electricity over their 5-year life. Grant funds provided by the Kansas Corporation Commission were matched with local funding in an effort to introduce residents to the advantages of utilizing compact fluorescent lighting. Over 1,000 General Electric (15 watt/60 watt equivalent) and 1,400 Phillips (23 watt/90 watt equivalent) bulbs were purchased from local vendors and sold below retail cost (\$5 each) at a one-day event held September 29, 2001 as part of the Overland Park Fall Festival. Advertising for the event emphasized the \$45 cost savings over the useful life of the bulb. Follow-up conversations with bulb purchasers reveal a high level of satisfaction, and an increased interest in using CFL's in more home applications.

## Utilities

### Photovoltaic Demonstration

Kansas Department of Wildlife and Parks  
Pratt (620) 672-0742

As an ongoing upgrade to Kansas park facilities, the Department of Parks and Wildlife, with financial aid from the Kansas State Energy Program, has been installing photovoltaic (PV) lighting in the state's park facilities. PV is ideal for areas a distance from the electric grid, such as parklands. It would be cost prohibitive to build electric lines to service the parks' lighting needs. PV is an excellent alternative.

During daylight hours, PV systems charge batteries for the lights which are then slowly discharged during nighttime hours. The lights have contributed greatly to security, safety, and accessibility in the areas where they have been installed. In the words of one of the park managers, "The addition of the lights at Quarry Bay complimented the new boat ramp courtesy dock project completed this year. The dock is far removed from any electricity, and the additional lighting has facilitated night fishermen tremendously." Several compliments have been received on this complex. The light at Wind Hill is a needed addition to an existing ramp. The ramp and dock complex is located a great distance from an electrical source and serves some of the major campgrounds at Fall River State Park. This project also facilitates use of the boat ramp by night fishermen and other recreational boaters. PV lighting in other parks provide illumination for directional signs that assist visitors after dark.

*This year's projects include:*

Eisenhower State Park	Light systems for signs
Kanopolis State Park	Light system for vault toilet
Pomona State Park	Pole light systems (existing pole)
Clinton State Park	Pole light system
Elk City State Park	Pole light systems
Wilson State Park	Pole light systems

# State Energy Program Grants

## Kansas Wind Energy Conference 2001

*Pinnacle Technology, Inc.  
Lawrence (785) 832-8866*

Large-scale wind farming has come to Kansas. Kansas first wind farm is in Montezuma, just southwest of Dodge City. To learn more about developing this Kansas natural resource, the second Kansas Wind Energy Conference was held at Dodge City Community College on October 22, 2001. The highlight of the conference was a tour of the wind farm conducted by representatives of Florida Power and Light and Utilicorp United.

More people than expected, over 300, filled the auditorium to capacity. Landowners, businessmen, state, county, and city officials, school districts, and executives from wind energy enterprises were among the attendees. Early arrivals to the conference were treated to a "Chuckwagon Dinner and Wild West Show" Sunday night at the Marchel Ranch just west of Dodge City.



*Part of over 300 people who filled the auditorium at Dodge City Community College in October to hear local and nationally renowned experts on both large and small wind technologies.*

State Senator Stan Clark, Oakley, and State Representative Carl Holmes, Liberal, delivered welcoming remarks to the attendees. They were followed by speakers: Steven Palomo, U.S. Department of Energy Denver Regional Office; Trudy Forsyth, National Renewable Energy Laboratory; Vaughn Nelson, West Texas A&M University; Representative Scot Kelsh, North Dakota State Legislature; Jim Miller, Utilicorp United; Bob Bergstrom, FPL Energy; Rusty Hurt, FPL Energy; and David Johnson and Donna Johnson, Pinnacle Technology, the conference's co-host.

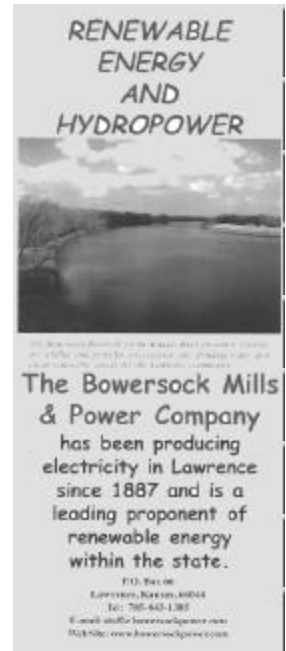
Conference attendees learned what was required, other than wind, to attract development to their area. Discussion also included the economic, social and environmental benefits of wind energy. The comfortable size of the gathering also allowed participants to have one-on-one discussions with the presenters during breaks.

In a show of support for wind energy within the state, forty-six diverse businesses and organizations lent their names and prestige to be co-sponsors of "Kansas Wind Energy 2001."

## Hydroelectric Education

*The Bowersock Mills & Power Company  
Lawrence (785) 843-1385*

Bowersock Mills & Power Company (1874) is the 2<sup>nd</sup> oldest hydropower facility west of the Mississippi and the only active hydropower facility in Kansas. With encouragement and assistance provided by the State Energy Program's education funding, Bowersock has been able to upgrade facilities to provide educational tours on hydropower production to interested groups. The energy education grant was used to create interpretive drawings that are displayed in the entryway to the warehouse where the tour begins. The drawings help to make the tour a more meaningful experience for the visitor. The focus of these drawings is to help explain more difficult concepts like *head*, and the function and structure of the *flashboards* that help keep the reservoir at optimal height for power production.



Also produced with the grant were two brochures that are provided to visitors. One explains what electricity is and how it is generated, distributed and consumed; the other discusses the benefits of renewable energy and hydropower. Completing the grant outlays was an update to the web site where the viewer can find out about Bowersock's history and how it was instrumental in the growth of old Lawrence. Discussions of hydropower and green power, current generation data, and even an update of bald eagle sightings near the dam during the winter months can be found on the web site, [www.bowersockpower.com](http://www.bowersockpower.com). If your group is interested in touring the facility call, or e-mail [dave@bowersockpower.com](mailto:dave@bowersockpower.com).

## Industrial

### Solid Waste Recycling/Reduction

*Kansas Surplus Exchange, Inc.  
Topeka (785) 235-8640*

Is your business expanding? Do you have outdated furniture and/or equipment to move from your office or stage areas? Have you purchased something new and want to dispose of the old? Do

# State Energy Program Grants

you need to create space in your warehouse? The Kansas Surplus Exchange can help while you help local charities.

The Exchange is a not-for-profit organization that supplies IRS 501(c)(3) organizations the materials and advantages that individuals and for-profit businesses provide. The contributions are tax deductible charitable donations.

The Exchange acts as an interface between Kansas businesses and nonprofit organizations to facilitate the transfer of items that may be somewhat outdated, but still with useful life. By donating items for reuse, the energy that would be required to manufacture new items is saved, while at the same time providing assistance to worthwhile charities, extending the life of landfills and promoting the conservation of our natural resources. Contact them if you have items you wish to donate.

The Exchange is funded by nominal handling fees paid by members for goods they receive and by grants from concerned organizations, such as the Kansas State Energy Office. This continued support is greatly appreciated and needed.



Energy Division (ED), within the KCC, is the lead agency, and its director is the primary advisor to the Governor in an energy crisis. The ED works in close consultation with the Kansas Division of Emergency Management (KDEM).

The plan uses three basic strategies to minimize disruption of energy supply or the perception of an emergency. These strategies are: voluntary and mandatory demand reduction measures, substitution of alternative resources when possible, and state government programs to curtail excessive use. Further, the plan defines emergency conditions and how to monitor indicators; identifies the players, as well as their roles and responsibilities; identifies the flow of information among agencies, private industry, and the public; recommends “measures” to reduce demand on resources; and discusses the economic impact of higher priced fuel on low-income persons. The plan is organized around three emergency response phases that contain increasing levels of activity depending on the severity of the energy emergency.

This plan outlines measures the state can use to monitor an energy shortage and decide whether or not an energy emergency should be declared. It describes the actions that must be taken to declare a state of energy emergency, outlining decision-making and administrative structures that are to be used. It suggests levels of emergency that may occur for shortages of each fuel type with voluntary and/or mandatory measures appropriate for the level of shortage.

If a substantial shortage exists or appears imminent, the ED director will recommend to the Governor that an energy emergency be declared for one or more fuel sources. At that time, the director of KDEM will open the State Emergency Operations Center (State EOC), to be staffed jointly by KDEM staff, ED staff, relevant state agencies, and others. The Governor will call into order various agencies of state government, representatives of local governments, and non-governmental organizations.

The Governor may recommend voluntary reduction of energy use by lowering thermostats, for instance, or in a severe crisis, require that certain buildings be closed for the duration of the emergency and heated only at building protection levels. The governor might initially encourage carpooling or later require alternate day fill-ups for motor vehicles. These measures will be voluntary to the extent possible and mandatory in more severe fuel shortages and may be localized or statewide in scope. The goal of actions recommended or required by the Governor will be to distribute available resources in an equitable manner, to maintain essential services to the extent possible, and to protect the health and welfare of Kansas’ citizens. Fuel assistance programs designed to help mitigate energy-related economic hardships to low-income households are discussed.

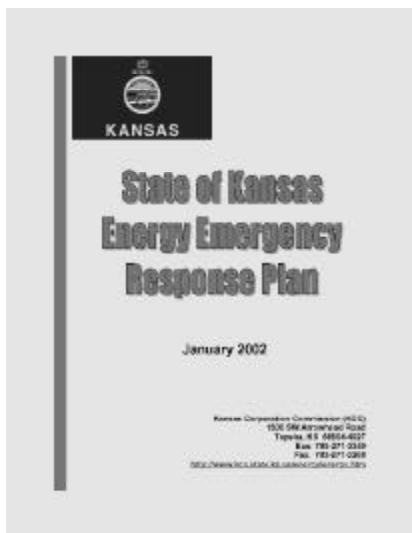
The plan relies on the free market to operate, with government intervention assumed only under conditions of extreme emergency. During an energy emergency, the state’s responsibility is to communicate, coordinate, aid, and assist. The private sector’s responsibility is to repair damage and get commercial and industrial systems

## Special Projects

### Energy Emergency Plan Update

*Energy Planning Consultants  
Denver, CO (303) 382-5467*

The Kansas State Energy Emergency Response Plan (SEERP) is a comprehensive manual for state government leaders charged with the responsibility of ensuring the health, welfare, and safety of the citizens of the state during periods of energy emergencies. The plan describes the way the state will respond if an energy shortage of a substantial nature occurs or appears imminent. The



# State Energy Program Grants

back on track as soon as possible. These actions are achievable through communication, cooperation, and reliance on the voluntary action of communities, suppliers, and citizens.

The complete SEERP can be downloaded at [www.energyplan.net/downloads.htm](http://www.energyplan.net/downloads.htm).

## Development of Kansas Wind Resources Map

*Coriolis*

*Lawrence (785) 841-1906*

Kansas has enormous wind energy potential, and a 110 MW utility scale windfarm is now operating near Montezuma in Southwest Kansas. Support for wind energy development is widespread, but some argue that Kansas wind energy just is not what it is purported to be. Despite the collection of considerable wind resource data, the full extent of the resource, its location, and its proximity to existing electric transmission lines and load centers is not well understood. As an aid to clarifying the wind's economic potential, several states have developed wind resource maps that help people understand the scale of wind energy resources and where wind farm development could most economically take place.

Using wind data collected by the National Weather Service and the Utility Wind Interest Group, a detailed Kansas wind map using the **WindMap™** software is being developed. The map will show estimated wind speeds at an elevation of 50 meters using the Department of Energy color scheme. The map will also display electric transmission lines, major roads and political boundaries, and will be web accessible. Projections are the map will be available online in January 2003.

## American Solar Challenge 2002

*Kansas State University Solar Car Racing Team*

*Manhattan (785) 532-5506*

The KSU Solar Car Racing Team entered two cars in the same race for the first time this past summer. CATalyst, the 2001 car, and Apollo, the 1999 car, competed in the Formula Sun Grand Prix held in Heartland Park, Topeka. CATalyst placed 3<sup>rd</sup> in open class, 3<sup>rd</sup> overall, and Apollo finished 1<sup>st</sup> in stock class, 6<sup>th</sup> overall in a field of twelve cars. CATalyst completed 418 laps around the 2.1 mile road course and Apollo did 305 laps, trailing only 3 laps behind the open class entry of Iowa State.

The team was striving for consistency at the track race. A detailed strategy plan and fast pit stops helped the team maintain a consistent speed that would lead to the most possible laps over the three day race. CATalyst only saw two flats out on the track and averaged less than 20 minutes in the pit area on any given day. Race officials were impressed that the group of students could race two cars at the same time, especially since the race was held during finals week at K-State.



*KSU's 2002 Formula Sun racing crew with CATalyst and Apollo*

In addition to achieving their goal of a top three finish of both cars in their respective classes, the team also set the record for the fastest figure-8 and won the pit crew challenge. Scott Hammack piloted CATalyst to a very impressive 11.03 second pass on the figure eight, almost twice as fast as the minimum time needed to qualify the car. The team also beat out the competition in a head-to-head race to see who could change drivers and a tire the fastest. Members not only had a good time at the week-long race, they also gained a great deal of experience by working with two different cars.

The team is looking forward to another summer of solar racing as they prepare for Formula Sun 2003. That race will be held as a qualifying event for the 2003 American Solar Challenge, a cross country race from Chicago to Los Angeles on Route 66. For more information and progress reports, visit the team's web site: [www.engg.ksu.edu/solarcar](http://www.engg.ksu.edu/solarcar).



*SolarCar pit stops bear a striking resemblance to Indy and NASCAR pit stops. Here the KSU racing team performs a tire change.*

# Institutional Conservation Program

## *Around the Office*

Jim Ploger and Jerry Van Allen continue to lead the State Energy Office (SEO). In addition to his office duties, Jim also served on the Board of Directors of the National Association of State Energy Officials (NASEO) and the Energy Services Coalition (ESC), a 30-state partnership of public and private interests promoting the use of energy performance contracting. Jim received the Director's Award from the Denver Regional Department of Energy in recognition of his extraordinary contributions to advancing the energy security and environmental health of the United States through the use of energy efficiency and renewable energy technology. Jerry continues to help Kansas schools save energy dollars by directing the ICP program. A new addition to the staff, Connie Lannon, began working for the SEO through the KCC's Accounting Division. She came to the KCC from the Judicial Branch. Welcome aboard Connie!

The benefits of energy efficiency can be seen in the opening of the new Charles Curtis State Office Building in Topeka. With financial assistance from the SEO, the building's HVAC system was upgraded. The additional \$700,000 cost of the system will be recovered in operating savings of approximately \$112,000 annually. A state of the art electronic lighting control system (Watt Stopper) was also installed with a grant from the SEO. It is estimated that Watt Stopper can save the state up to \$74,000 annually in electricity usage.

The SEO has been busy in state emergency preparedness. The program received national recognition for its State of Kansas Energy Emergency Response Plan (page 9) and is working with the cities of Topeka and Manhattan to create energy emergency plans that can be used as prototypes for other Kansas communities.

The SEO has been active in supporting renewable energy within the state. In October 2001, the SEO hosted Kansas Wind Energy 2001 in Dodge City (pages 7-8), and in June 2002 hosted the first meeting of the Kansas Renewable Energy Working Group (KREWG), a non-profit organization dedicated to the greater use of renewable energy within Kansas, [www.krewg.org](http://www.krewg.org). With the interest in wind energy growing and increased concern for the nation's energy supplies, it promises to be another busy year for the SEO in FY2003

USD 363

*Holcomb*

Anticipated Annual Savings  
**\$4,716**

Holcomb USD 363 applied its ICP matching funds grant to improving the Holcomb Elementary Building, which includes the original grade school plus six additions that date back to 1955. The focus of the energy conservation effort was the indoor swimming pool, completed in 1970. Its original heating system consisted of two rooftop gas-fired units. The units recycled the chlorine laden indoor air and the caustic effects of the chlorine had deteriorated the units badly. They were replaced with high efficiency units that use only outside air for heat make-up, thereby extending their useful life. Humidity in the pool area is now controlled with humidistat controlled exhaust fans. Automatic reel pool blankets have also been installed to cover the pool when not in use. This has proved to be very effective in controlling both humidity and decreasing the amount of pool make-up water and chemicals. Other energy conservation measures taken were the replacement of the building's energy management system and a lighting retrofit of ballasts and lamps. The district's original plan was to make this a three-year project, but with the financial aid of the Kansas State Energy Program, the district completed the project in one summer. This means that the district has been able to enjoy the energy and costs saving benefits of the project two years earlier than expected. The district is very grateful for the assistance with these upgrades.

USD 328

*Lorraine*

Anticipated Annual Savings  
**\$13,143**

Lorraine USD 328, with the technical assistance of a state registered engineering firm, began a lighting and heating upgrade in the spring of 2002. All of the 1952 model lights in Wilson, Bushton, and Holyrood schools were replaced with either new fixtures or bulbs and ballast. Motion sensors were also added to certain classrooms. These have been great improvements in the buildings, as noted by many students and staff.

The most improved has to be the dressing rooms of each gymnasium and the weight rooms. It seems they had been neglected for many years. To the delight of everyone in the district, each gym had the lights replaced with new metal halide bulbs. New lighting has made a terrific difference. It was a great improvement that will continue to be appreciated for many years.

In Wilson, with the help (labor) of the shop class, numerous windows were removed from the Vocational Agriculture classroom and replaced by windows with metal skin to the exterior and insulation to the interior. This has drastically improved the comfort and learning environment of the Vo Ag classroom. Due to many other additions and upgrades, it would be almost impossible to do a comparison in utilities, but the district is sure that it is operating much more efficiently. Thank you to everyone involved in this project!

# Institutional Conservation Program

USD 332

*Cunningham*

Anticipated Annual Savings  
**\$7,557**

West Kingman County USD 332 received a 2002 ICP grant to make energy-saving improvements in the lighting in the Cunningham High School gymnasium. The grant gave the district the opportunity to replace all the old original fixtures and bulbs, which had become almost impossible to find, with new energy efficient lighting and fixtures. The project was completed during Christmas break. The students and patrons have noticed a wonderful improvement in the lighting in the gym when playing or watching activities.

The energy cost for the district was down \$30,000 this year. In a small school of declining enrollment this savings is very significant. It is felt the lights contributed greatly with their increase in efficiency and reduction in energy usage. Improving the lighting for use by students and patrons while at the same time saving money has made this a valuable investment in the future of the school.

Mill Creek Valley USD 329

*Alma*

Anticipated Annual Savings  
**\$14,615**

Night and Day! USD 329 Mill Creek Valley's ICP grant produced markedly "visible" results! Mill Creek Valley is a 550-student school district lying between Manhattan and Topeka on I-70. The district is composed of five attendance centers in the communities of Paxico, Maple Hill, and Alma. The ICP grant provided the district the opportunity to make lighting and boiler control system improvements in all facilities that should create an investment payback in about 6 years. Beyond the financial benefit, the exceptionally brighter, flicker-free learning environment should result in better student performance as well. The teachers and principals were very pleasantly surprised and impressed with the difference the new T8 fluorescent fixtures and electronic ballasts made in the classrooms. In rooms throughout the district, comments like, "I didn't realize how dim our lighting really was!" were heard. In the 1937 vintage high school, a boiler control system was installed that samples and averages room temperatures throughout the building and adjusts boiler output accordingly. The controls included electronics that allow afternoon and evening setback of boiler output. The comfort level of the hot water heating in the old building was almost immediately noticeable. The district is in the middle of a \$7 million bond project as well. The improvements made available through the ICP grant have allowed USD 329 to bring practically all of the facilities up to standards similar to the newly constructed areas.

USD 354

*Claflin*

Anticipated Annual Savings  
**\$4,134**

The Claflin School District USD 354 received an ICP grant for FY 2002. The district used the grant money to update the fluorescent lighting fixtures in the Claflin Jr/Sr High School buildings. The lights were replaced in the gym balconies, vocational agriculture building, industrial arts building, all classrooms, locker rooms, cafeteria, bathrooms, boiler room, high school office, hallways, and music room. These lights are far more energy efficient than the previous fluorescent fixtures and bulbs. The new, brighter lights provide an improved learning environment and more comfortable atmosphere for staff and students.

The district is very pleased with the lighting project the Claflin Jr/Sr High School underwent last winter and is grateful for the opportunity to make available these accommodations to the staff, students, and patrons of the district. The grant was very much appreciated and USD 354 would like to take this opportunity to thank the Kansas State Energy program for their assistance.

USD 443

*Dodge City*

Anticipated Annual Savings  
**\$80,623**

USD 443 used its ICP grant to facilitate upgrading the heating and air-conditioning of Comanche Intermediate Center as part of its \$10 million remodel. It is a pleasure to report that the remodel of the 1929 high school into Comanche Intermediate Center is complete and that 638 youngsters are now enjoying the building.

The building was closed in May 2001. The demolition of every pipe, wire, and window was the first part of the project and completed in November. Comfort Systems of Wichita had the contract to install new rooftop HVAC units as well as all duct work in the three-story building. Mid-Tec Company of Anderson, Missouri completed the remainder of the remodeling in time for school to begin in August 2002. Prior to the remodeling the 148,000 square foot building had window air-conditioners in the original section and centralized cooling in a 1965 addition. The older section of the building was heated by a forced air system and the 1965 addition by a hot water system. Because of asbestos, the forced air furnace was encased in a concrete block tomb. The building is now completely air-conditioned and has direct digital controls for energy management. A detailed energy study conducted by ESS Engineering, a Comfort System subsidiary, estimated the annual savings to be in the range of \$69,300 for electricity and \$69,100 for natural gas as well as an additional \$2,300 in savings in water usage.

# Institutional Conservation Program

USD 411

*Goessel*

Anticipated Annual Savings  
**\$10,146**

Goessel USD 411 received a Cycle 23 grant for upgrading the lighting throughout Goessel Elementary and High Schools. These projects have been completed. Most of the lighting throughout the facilities is fluorescent type lighting. The fluorescent light fixtures were either retrofitted or replaced with new fixtures using high efficiency fluorescent lamps and electronic ballast. The overall effect was dramatic with improvements in light levels as well as improved lighting quality.

As part of the lighting upgrade project, occupancy sensors were installed in partial use areas to turn lights on automatically when a person enters an area and turned off as the area is vacated. The controls were upgraded at the high school. All of the thermostats were replaced with programmable thermostats to setback the heating and cooling set points during unoccupied periods. The thermostats were networked to a central computer for ease of programming changes. This project has been completed.

Although there are many uncontrollable variables, such as weather, the overall electrical and gas consumption appears to have been greatly reduced for these two facilities.

USD 313

*Buhler*

Anticipated Annual Savings  
**\$19,492**

Buhler USD 313 was funded by the ICP program for a lighting upgrade in Buhler High School. Areas targeted for the upgrades were the pre-1987 construction areas. Motion sensors were also installed in all restroom facilities. The portion of the project that undoubtedly had the greatest impact was the upgrade of the lighting in the "old gymnasium." Not only is the lighting much more energy efficient, but it is also a great deal brighter. This has contributed to renewed use of that facility.

At the time the new lighting was installed in the high school, it was anticipated that the cost of the project would be recouped through energy savings in approximately three years. An analysis of current savings indicates that the district is on target with these projections. The success of this project points out the energy savings that can be achieved even in relatively new buildings by upgrading to state-of-the-art lighting. The success also encouraged the district to apply for and receive another ICP grant to upgrade the lighting in Prairie Hills Middle School.

USD 509

*South Haven*

Anticipated Annual Savings  
**\$3,242**

South Haven Schools began to exchange the old lighting for new in 2000-2001. The project began in the midst of a new addition to the building, so coordination and cooperation were imperative. Although the school year was already underway, the teachers were very flexible, and there were no arguments once an example or two of the end product was available for all to see. The new lighting was as much as three times brighter than the old. It was like completely new classrooms. Teachers, students, and parents all commented positively on the improvement.

The thrill of brighter rooms and healthier learning environments was just the beginning. Although the administration was excited about the new addition, there was concern about the added utility bills. The new addition was adding almost 50% additional square footage and a 50% increase in energy costs would be a tough pill to swallow. Everyone was thrilled when electric bills were no higher than the previous year. The new lighting coupled with the energy efficient lighting in the new addition had made a greater difference than anyone had dared to hope.

*"The grant paid half of the project. Without that as an incentive, it may have been one of those delayed projects. Now that we have been living in the better-lit classrooms, I don't know how we asked our teachers to teach and our students to learn in old dimly lit rooms. South Haven Schools wishes to thank those that enabled this to happen. It has made a positive difference."*  
--- James Sutton, Superintendent USD 509

USD 440

*Halstead/Bentley*

Anticipated Annual Savings  
**\$1,283**

USD 440 invested its ICP grant funds in improvements to Bentley Primary School. Among the changes made were the conversion to more energy efficient lighting, installation of motion sensor light switches, and energy efficient ballasts for the fluorescent light fixtures. All the upgrades have reduced the energy costs of the building and provide savings to the district as well as improve the overall learning and working environment for students and teachers. These savings can now be used for the education of the community's children.

# Institutional Conservation Program

USD 326

*Logan*

Anticipated Annual Savings  
**\$17,124**

Logan USD 326 was engaged in two ICP grant projects in FY2002. The first project was retrofitting all the lights in the Logan Junior-Senior High School including auditorium, gymnasium, hallways, classrooms, and offices. The fixtures in the north part of the building, constructed in 1969, were primarily retrofitted with electronic ballast and high-efficiency fluorescent lamps. In the older part of the building, constructed in the 1950's, complete fixtures with high-efficiency fluorescent lamps were installed.

The second project was the installation of a new building automation system for the Jr/Sr High School. The scope of the project included the installation of a new direct digit control based building automation system providing centralized control of most of the main mechanical equipment serving heating and cooling of the building.

The district has not yet experienced savings in the heating operation as the project was not finished until the spring of 2002, but all indications are there will be considerable savings. The lighting upgrade has brought many positive reactions from district personnel. The improvements were especially noticeable in the previously dimly lit gymnasium where players, coaches and spectators have all commented on the new lighting. This is of particular importance because it is one of the primary areas where the school district interfaces with local citizens and where they can judge the progress that is being made with facility improvements.

USD 405

*Lyons*

Anticipated Annual Savings  
**\$11,559**

Lyons USD 405 received a Cycle 23 Institutional Conservation Program grant to upgrade the lighting throughout Lyons High School, Lyons Middle School and Park Elementary. These projects have been completed.

Most of the lighting throughout the facilities was fluorescent type lighting. The fluorescent light fixtures were either retrofitted or replaced with new fixtures with high efficiency fluorescent lamps and electronic ballast. The overall effect was dramatic with improvements in light levels as well as improved lighting quality. Also, occupancy sensors were installed in partial use areas to turn lights on automatically when a person enters an area and turn them off after the area is vacated. The new sensors have eliminated the problem of lights being left on in many low traffic areas within the buildings.

Although long-term data are not available, it is believed the overall electrical consumption has been reduced for these three facilities. The improvements to the buildings as a result of the ICP award have been well received by the students, staff, and patrons of the district. The success of this project has led the district to apply for a Cycle 24 grant to replace the existing boiler serving Central Elementary School.

USD 494

*Syracuse*

Anticipated Annual Savings  
**\$4,782**

Syracuse USD 494 has been under several renovations for the past few years. In 1999, Hamilton County voters passed a bond issue in the amount of \$7.85 million to build a new Jr/Sr High School building. This spurred several renovation projects in the elementary building. First, old and failing wiring was replaced. Next, the HVAC System was replaced with a new chiller type system that improved the learning environment for the students ten fold. When the new HVAC system was installed it was quickly noticed that a great deal of energy was being lost through the roof. The ceilings were not insulated and the old ceiling tiles had holes in them and were not made of quality insulating material. One discussion led to another and it was decided that something must be done about the ceiling to reduce the energy loss.

Somewhere, Superintendent Jerry Burch had heard about the opportunity for grants through the Kansas State Energy Program, so he had the district's architect developed a plan, and the project



*Improvements in ceiling insulation and lighting in Syracuse Jr/Sr High School aid the new HVAC system in maintaining a comfortable learning environment.*

# Institutional Conservation Program

was placed under bid. The plan included new ceiling tile and grid, new and improved lighting, replacing all the old lights' wiring, adding insulation above the ceiling grid to reduce energy loss, and new occupancy sensors. Although not everything in the plan qualified for the grant, after several consultations with Mr. Van Allen the district applied for the grant. The district received a grant to aide the project and help with the installation of new more efficient light fixtures and insulation to reduce our lost of energy through the roof.

*"It has made a real difference in the learning environment for our children. They no longer are so hot in the beginning months of the school year that it is difficult for them to do their work, and the building is nice and cozy during the winter months. With the help of the Kansas State Energy Program we have enhanced the learning environment for our children, which in turn has improved our children's test scores and attitudes about learning. We truly appreciate the assistance we have received from the Kansas Corporation Commission and the State Energy Program." --- Jerry Burch, Superintendent USD 494*

## St. Anne Catholic School Wichita

Anticipated Annual Savings  
**\$4,041**

St. Anne's was able to update lighting systems in two of the buildings with the help of the ICP grant program. The lighting update is projected to save over \$2,000 per year. The investment in more efficient lighting will be repaid in 3 or 4 years since the cost came in below estimates.

Besides saving money, the lighting upgrade also improved the quality of lighting in the building. Many of the teachers and others that use the building commented on the brighter lights and improved teaching conditions. The janitor also has noticed that the new fluorescent bulbs last longer and likes the instant on feature of the elec-

Many of the teachers  
commented on the brighter  
lights and improved  
teaching conditions.

--- Fr. Kent Hemburger, Pastor, St Anne's Parish

tronic ballast in the fluorescent lights. With as many bulbs as there are in a school building, the increased bulb-life also adds up to considerable savings. The difference in lighting quality was greatest where inadequate incandescent lighting was replaced with new high efficiency fluorescent lighting. The light is much brighter, even with much less wattage. St. Anne's is looking forward to energy savings for years to come.

USD 429

Troy

Anticipated Annual  
Savings  
**\$15,379**

Troy USD 429 received an ICP to update and upgrade the lighting in the elementary and high school classrooms as well as the physical education facilities. Projections indicate the district will recoup the investment within a few years.

Staff members and patrons have noticed a significant increase in the lighting in the facilities. Numerous comments have been received on the project and everyone appreciates the changes. Overall, the district has been very pleased with the results of the project. The lighting upgrades will continue to benefit the district in the future both in energy savings and an improved learning environment.

USD 463

Udall

Anticipated Annual  
Savings  
**\$2,913**

USD 463's ICP grant was used to improve the lighting in Udall Elementary School which was built in the 1950's and badly in need of an update. New ballast and bulbs have improved the quality of the lighting and decreased the energy required for operation. A general cleaning of the facilities along with repainting the ceilings has improved reflectivity to give the maximum "lumens for the loot" for the project. The addition of occupancy sensors insures that the new lighting is turned on only when rooms are in use. Students, faculty and staff are all pleased to have upgraded well-lit study and work areas. With the assistance of the State Energy Office's ICP Program, the quality of education in Udall has been improved while conserving energy for the state and the nation.

Kansas Energy Program  
Kansas Corporation Commission  
1500 SW Arrowhead Road  
Topeka, KS 66604

## *To Apply for SEP Funding*

Energy Program grants are available to qualified citizens, businesses and organizations. Written proposals, including budgets, are due to the Energy Program office by the first Monday in March. All proposals must be submitted on the State Energy Program Assistance Budget Form available from the State Energy Office, [www.kcc.state.ks.us](http://www.kcc.state.ks.us). For details, contact Jim Ploger at the contact points listed on the front cover of this publication.

Application forms for Institutional Conservation Program (ICP) grants are available to qualified schools and school districts. Requests for applications are due the last Friday in December and completed applications must be received by the first Monday in March. An initial Technical Assessment must be performed prior to applying for an ICP grant. Contact Jerry Van Allen at the State Energy Office for more information.

Cost sharing is required for Institutional Conservation Program grants and is encouraged for State Energy Program grants. Grants are for a one year period beginning July 1. All applicants will be notified regarding the final status of their application by June 30.



*The Kansas Corporation Commission headquarters in Topeka is the home of the Kansas Energy Program.*

This material was prepared with the support of the U.S. Department of Energy (DOE) Grant No. DE-FG48-97R802102. However, any opinions, conclusions, or recommendations expressed herein are those of the author(s) and do not necessarily reflect the views of the DOE.